PATENT
TS1313 (US)
CWS:EM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

In re application of	)	
	)	
CAROLUS M. A. M. MESTERS and RONALD J. SCHOONEBEEK	)	
	)	
Serial No. 10/738,332	)	Group Art Unit: 1764
	)	
Filed December 17, 2003	)	Examiner: John Christopher Douglas
	)	
PROCESS FOR THE CATALYTIC SELECTIVE OXIDATION OF SULFUR COMPOUNDS	)	August 7, 2007

COMMISSIONER FOR PATENTS
P. O. Box 1450
Alexandria, VA 22313-1450

- Reply Brief Noted
- No Supplemental Examiner's Answer

JCD

Sir:

REPLY BRIEF

This Reply Brief is in response to the Examiner's Answer that was mailed on July 24, 2007 in response to the Applicants' Appeal Brief filed electronically on March 26, 2007.

The Examiner responds to the Applicants' point that the Frame patent teaches a catalyst that is completely different than the Applicants' claimed catalyst by stating that the catalyst of Frame comprises platinum, rhodium, or iridium on a zirconia support and, then, he recites certain MPEP provisions as stating that claims are to be interpreted as broadly as the terms reasonably allow and that it is improper to import limitations into the claims from the specification. The Examiner uses the recited MPEP provisions to support his argument that, since the Applicants' claim language does not limit its recited metal component to a metal salt, then the recited metal component should be construed to broadly encompass metal salts, thus, allegedly, reading on the metal compounds disclosed by the Frame patent.

In responding to this argument, the Applicants note that the catalyst recited in their (1) claims is "a catalytically active group VIII noble metal" that is supported on a carrier comprising "stabilized or partially stabilized zirconia." A stabilized zirconia is something different than the solid zirconia mentioned in the Frame patent at column 4, lines 60-64. Also, the Applicants have (2) never stated that the form of the noble metal in their catalyst is necessarily a salt. They have only indicated that the impregnation of the catalyst support with the metal component is usually done using a metal salt. The subsequent drying and calcination in air of the impregnated solid support typically will result in changing the form of the metal into an oxide or some other metal compound, which is something completely different than the Frame phthalocyanine catalyst. The Frame catalyst system must be a two-component system of a Group VIIB metal phthalocyanine and a Group VIII metal phthalocyanine. *See* Frame at column 3, lines 50-55. Moreover, while Frame states that its catalyst system may be dispersed on a solid support, much of the focus of the Frame disclosure is on liquid systems instead of the phthalocyanine compounds being supported on a solid support. Frame does not teach that when it phthalocyanine catalyst systems are dispersed on a solid support the resulting composition is dried or calcined, and Frame indicates that in its process for the oxidation of a sulfur compound the catalyst form must be a metal phthalocyanine.

The Examiner responds to the Applicants' point that the stabilized or partially stabilized zirconia catalyst carrier of their catalyst composition is something different than the zirconia that is mentioned only once in the Frame patent, with no elaboration or definition, *see* column 4, line 62-63, by merely making the unsupported statement that it is obvious for the reference therein to zirconia to include a stabilized or partially stabilized zirconia support, because Frame does not describe the zirconia as unstabilized. Contrary to the Examiner's assertion, however, the failure of the Frame patent to describe unstabilized zirconia is actually a reason, among many, why the Examiner has failed to make a prima facia demonstration of obviousness of the claimed invention. None of the references cited by the Examiner, either individually or in combination, disclose or teach the use of stabilized zirconia in a catalyst further containing either platinum, rhodium, or iridium metal in the process application as claimed by the Applicants. This failure of the references to teach the use of the Applicants' specifically defined catalyst in the particularly claimed process application is a clear indication of the unobviousness of their claimed invention.

The Examiner responds to the Applicants' point that the Frame patent fails to disclose the Applicants' claimed concentration of noble metal that is included in their catalyst composition

by pointing to an Example that is presented in the Frame patent, *see* column 8, lines 62 –65, Example VIII, and alleging that it discloses the Applicants' claimed noble metal range of 0.02 to 10 wt %. However, the Examiner is incorrect as to what this Example actually discloses. The catalyst in the Example is rhenium phthalocyanine disulfonate and ruthenium phthalocyanine tetrasulfonate dispersed on alumina. This catalyst is not even remotely similar to the Applicants' claimed catalyst. There is no mention in the Example of its catalyst containing the noble metals platinum, rhodium, and iridium, which are the required noble metals of the Applicants' claimed catalyst, and, also, the catalyst system of the Example comprises the mentioned phthalocyanine metal compounds that are dispersed on alumina – not stabilized zirconia. There is absolutely no mention of zirconia in the Example nor is there any mention in the Example of platinum, rhodium or iridium that are the required components of the Applicants' claimed catalyst. The two catalysts are totally dissimilar.

In addition to the above comments, it is further noted that there are further differences between the Applicants' claimed process and those disclosed by the Examiner's cited references that are not addressed by the Examiner. For instance, the Applicants' claimed process places certain limitations on the oxygen-to-carbon ratio and other process conditions. There is simply nothing in the references to suggest the particular combination of catalyst composition and process application claimed by the Applicants.

In view of the above remarks and those presented in the Applicants' Appeal Brief, it is submitted that the claims on appeal in this case are patentable. Therefore, the reversal of the Examiner's final rejection thereof is respectfully requested.

Respectfully submitted,

CAROLUS M. A. M. MESTERS and
RONALD J. SCHOONEBEEK

By /Charles W. Stewart/
Attorney, Charles W. Stewart
Registration No. 34,023
(713) 241-0360

P.O. Box 2463
Houston, Texas 77252-2463